MICROBOLOMETER FOCAL PLANE ARRAY METHODS AND CIRCUITRY

ABSTRACT OF THE DISCLOSURE

Microbolometer circuitry and methods are disclosed to allow an individual microbolometer or groups of microbolometers, such as a microbolometer focal plane array, to operate over a wide temperature range. Temperature compensation is provided, such as through circuitry and/or calibration methods, to reduce non-uniform behavior over the desired operating temperatures. For example, the relative mismatch in the temperature coefficient of resistance of an active microbolometer and a reference microbolometer is compensated by employing a variable resistor in series with the active microbolometer. The variable resistor can be calibrated over the desired temperature range to minimize the affect of the relative mismatch. Various other circuit implementations, calibration methods, and processing of the microbolometer circuit output can be employed to provide further compensation.